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We build partnerships that benefit U.S. industry, Livermore Laboratory, and the nation

Mission

The Industrial Partnerships and Commercialization organization (IP&C) helps the Livermore Laboratory programs build mutually beneficial partnerships with industry. Livermore benefits by forming partnerships selectively with industries that support and enhance its mission. At the same time, American industries tap into Livermore's cutting-edge competencies to increase their competitiveness.

Partnership the Key

With the passage of the National Competitiveness Technology Transfer Act by Congress in 1989, partnering with industry became an important goal for all the Department of Energy's national laboratories, including Livermore. In the last decade, scores of organizations have entered into cooperative relationships with us, effectively moving Livermore-developed technology into the marketplace while helping our own programs advance in the most cost-effective way.

The heart of our work involves forming partnerships with industry. To reach our goals, we widely publicize Livermore's scientific and technical capabilities. We work with potential partners to understand our mutual needs and negotiate with them to establish equitable business arrangements.

A Myriad of partners and partnerships

There is no typical partnership. We work with large and small businesses in one-on-one and multi-institutional agreements. Likewise, partnerships take many forms. Our most widely used mechanisms include licensing agreements, cooperative research and development agreements (called CRADAs), contracts, exchange of personnel, use of Livermore facilities, and technical assistance.

Results to date

As of October 1995, Livermore had 193 cost-shared, multiyear CRADAs, which are valued at close to $600 million, with 201 companies and approximately 150 licenses with industry.

Dual benefits for industry and Livermore Laboratory

Through our partnerships, both Livermore and industry acquire broader knowledge and competencies than either could achieve working independently. Examples include the following.

•Development of a thin cathode ray tube with Silicon Video. The tube is a new class of flat panel display, with potential uses in portable notebook computers, thin desktop PC monitors, wall and handheld televisions, and new consumer electronic devices. The traditional flat-screen market is dominated 95 percent by foreign competitors. Spin-back benefit to Livermore is expected to result from high density data storage for advanced computing applications that are critical to the DOE defense mission. Environmental, biomedical and nuclear stockpile monitoring are

expected to be advanced by the electrochemical sensors with sensitivities orders of magnitude higher than current sensors that can be developed out of technology associated with this project.

•Development of a long-pulse laser for removing “port wine stain” birthmarks with Beckman Laser Institute and the Medical Clinic at the University of California at Irvine. The device, which grew out of Livermore’s premier laser center, is undergoing a progressive series of experimental tests that is intended to culminate in clinical trials and improved treatment for humans. The laser that has been developed advances the Laser directorate’s core competency in diode-pumped solid-state laser systems and has a broad range of applications to Livermore’s missions, including national security.

•Improvement of Chrysler Corporation’s production-line inspection systems using Livermore’s nondestructive evaluation (NDE) technology. Working with Chrysler engineers and technicians, we tested and upgraded the company’s five ultrasonic inspection systems at the Kokomo facility transmission plant in Indiana. The improved systems have enabled Chrysler to cut back on destructive testing by 50%, and improve transmission product quality by 3%. While Chrysler streamlined their transmission plant using our NDE expertise, we gained new knowledge applicable to reliability issues affecting stewardship of the nation’s nuclear stockpile.

•Development of a flywheel battery with Trinity Flywheel Batteries, Inc., to smooth out glitches in electric power supplies. Such batteries will help ensure power quality at factories, computer centers and other facilities where tiny surges or dips in the electrical supply can cause big problems. The first product delivery is scheduled for 1996. Government and military operations may be able to take advantage of the technology for their own uses.

•Micropower-impulse radar (MIR) uses $10 worth of off-the-shelf components contained in a one-inch-square package to outperform, in some ways, conventional radar and sensor equipment costing $40,000 and more. The technology, spun off from Livermore’s laser program where it was used to measure atomic particles from fusion experiments, has been the inspiration for such commercial applications as auto safety devices, electronic hand tools, security systems, and construction inspection and imaging. To date the MIR has 14 licenses and $1 million in royalties and license fees.

•Dynamic underground stripping is an innovative technique for cleaning up underground soils and groundwater that are chemically contaminated. The dynamic underground stripping process successfully cleaned up an underground gasoline spill at LLNL and recently has been licensed to a Southern California private company to clean up a privately owned site with contaminants.

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